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Let's Start!

Accessing the Impact of Unmet Need for Family Planning on Birth Spacing in Pakistan

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Accessing the Impact of Unmet Need for Family Planning on Birth Spacing in Pakistan

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Abstract

Contraceptive prevalence in Pakistan has plateaued near 34 percent for over a decade, suggesting that fertility levels are likely to stay high unless effective interventions are designed. The objective of this study is to investigate the effect of unmet need for family planning on birth spacing in Pakistan. For this purpose, we used secondary dataset of Pakistan Demographic and Health Survey 2017-18. The results of logistics regression indicate that the likelihood of women age increases birth spacing increases. The likelihood of birth spacing is higher for educated women than for illiterate ones. However, when women's educational attainment rises, the trend of birth spacing declines. Birth spacing is more likely to occur among women in the poorer wealth quintile than among those in the poorest wealth quintile; conversely, it is significantly less common among those in the wealthier and wealthiest wealth quintiles than among those in the poorest wealth quintile. When a wealth quintile is changed from the bottom to the top, the median number of months increases. Women who currently work have a larger chance of spacing their births than women who are not already employed. The probability of birth spacing is higher among those women who are more empowered rather than those women who are less empowered. The probability of birth spacing is higher among those women who are more empowered rather than those women who are less empowered. Husband's education is also an important factor that affects birth spacing. The likelihood of birth spacing is higher among those women whose husbands are higher educated as compared to uneducated. Unmet need for family planning is an important factor that affects birth spacing. The likelihood of birth spacing is lower among women who have UMNFP than those women who have no UMNFP. Results conclude that unmet need for family is an important determinant of short birth spacing in the case of Pakistan.

Keywords: UMNFP, Birth spacing, PDHS, Pakistan

INTRODUCTION

Pakistan is the fifth most populous country in the world, home to 216.6 million people (PRB, 2020). Pakistan has the highest total fertility rate (TFR) in South Asia at 3.6, with just a little decrease over the last ten years (from 4.1 in 2007 to 3.6 in 2018) (PDHS, 2018). Despite a

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significant unmet need for contraception (17.3 percent), the most recent Pakistan Demographic and Health Survey (PDHS 2017–18) indicates that the contraceptive prevalence rate (CPR) dropped from 35.4 percent in 2013 to 34.2 percent in 2018 (PDHS, 2018). Reflecting the low CPR, the majority of the birth intervals in Pakistan—66 percent according to the PDHS 2017–2018—are shorter than the 36 months recommended by the World Health Organization (WHO 2005). Furthermore, 36 percent of children are born within 24 months of the previous birth, an interval perceived to be “too short” (PDHS, 2013).

Except for Afghanistan, Pakistan is the only South Asian nation with a fertility rate that is still higher than replacement (PRB 2020). According to Rizvi et al. (2015), the nation failed to reach the Millennium Development Goals for maternal and child health. Numerous variables may be responsible for the ineffectiveness of family planning initiatives poor lowering fertility, according to existing Pakistani literature. A weak contraceptive supply chain system, insufficient funding, demotivated healthcare professionals, an ineffective health information system, a nonresponsive service delivery system, and a lack of political support for the programs are some of these factors (Cleland et al., 2006; Mumtaz et al., 2013; Abdullah et al., 2013; Nishtar et al., 2013; Ali, 2015; Ali et al., 2018; Raja & Iqbal, 2019). On the demand side, prior research has found that poor use of contraception and the ensuing high fertility are caused by psychological variables such as religion, social conservatism, and a preference for bigger families and boys (Agha, 2010; Channon, 2017; Sathar, 2013; Ahmad et al., 2014; Audi & Ali, 2016; Anees & Yan, 2019’ Asif et al., 2019; Russo, 2022). In addition, some scholars have criticized the family planning programs' narrow focus on encouraging small families rather than attending to couples' needs, desires, and beliefs regarding their families (Cleland et al., 2012; Mir and Shaikh, 2013; Ataullahjan, Mumtaz, and Vallianatos, 2019; Akbar & Hayat, 2020; Agha, 2010). This focus has caused couples to feel that the state is restricting their options regarding the size of their families (Mir and Shaikh 2013; Adeel, 2019; Asif et al., 2023).

The demand for and usage of contraceptives are also influenced by the geographic location of the population (Ataullahjan, 2018; Modibbo & Inuwa, 2020). Positive developments in the usage of contraceptives for the benefit of both the mother and the child are indicated by women's autonomy and communication with their parents and husbands (Khalil & Mookerjee, 2019). Different fertility patterns result from the women's conversations with their partners over the number of their families (Keesara et al., 2018). According to Gheorghe et al. (2018), door-to-door counselling of women and their spouses raises awareness and understanding about birth spacing and contemporary contraceptive techniques and successfully increases their social acceptability. The Pakistani government has implemented a program called Lady Health Workers, which distributes contraceptive techniques and offers door-to-door counselling to spouses. The advice provided by the woman health worker program led to an 18% increase in the usage of contraceptives (Sultan, 2018). Population patterns in Pakistan have changed significantly as a result of demographic shifts. Due to a high fertility rate in the past, the majority of the population was younger, with a percentage under the age of 15. Over the past twenty years, this tendency has reversed, and Pakistan now has a large working-age population

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(Pigeyre et al., 2018). Sixty-two percent of our population, or 117 million people, are of working age (Mubarak et al., 2018). Now, Pakistan may see a special sort of development if the economy can offer them work possibilities and generate new jobs for them. A further demographic shift in Pakistan is the daily decline in family size (Belkebir & Moumen, 2022). While time has gone on, parents' choices have shifted from having big families to having smaller ones. According to Rehman (2018), this is the reason behind Pakistan's 4 million unintended pregnancies, of which half result in unintended births. It is also thought to be the primary cause of the country's declining fertility rate and rising contraceptive use (Kittichottipanich, 2016; Shah et al., 2019).

Nowadays, family planning is essential to the well-being of the entire country as well as each individual family. Through numerous studies on childbirth spacing, a number of service-related factors were identified in Pakistan, including religion, unintended pregnancy, length of breastfeeding residence, sex of the child, survival status of the child, maternal educational status, and use of contraceptives. Additionally, no national study has been conducted to assess how maternal education and non-use of family planning affects the birth spacing. Maternal educational status, and the non-use of contraceptives are frequently discussed and clinically relevant variables that promote short birth spacing, despite the fact that their findings are inconsistent overall. This empirical analysis was carried out to determine the effect of women's education, non-use of contraceptives and birth spacing among Pakistani women of reproductive age. This research uses PDHS 2017–18 data to analyse the association between female education and non-use of contraceptive methods in Pakistan.

METHODS AND MATERIAL

In this study, the author used secondary data from the Pakistan Demographic and Health Survey (PDHS) 2017–18. For the data analysis, 13558 married women between the ages of 15 and 49 were chosen as a sample. The PDHS 2017–18 used a two-stage stratified sampling strategy. The eight districts have been separated into urban and rural areas using a tiered system. A total of sixteen testing layers were developed. Through a two-stage selection process, the samples were picked solely for each layer. Data from married women has been collected for the study in order to assess the relationship between the use of contraceptives and the maternal education levels. In this way, there are 13,558 women, with 6,351 living in cities and 7207 in rural areas. There are different socio-economic and demographic determinants that affect birth spacing. Women's age, region of residence (rural/urban), place of residence (province), women's education, number of sons, husband's desire of children, husband's education, women's autonomy (women's involvement in decision about usage of family planning methods), wealth status of household, ownership of land and house, women's employment status, fear of side effect for using contraceptives, exposure to mass media and UMNFP can be possible determinants of birth spacing. Besides an UMNFP, different socioeconomic characteristics of parents and households have been used as control variables in our regression analysis. In order to investigate the effects of unmet need for family planning on birth spacing (BS), the functional form of the model used in our study is as given below.

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$$BS = f(WA, WED, WSWH, WES, OLH, WPDM, NLC, HED, EMM, FSE, ROR, UMNFP)$$

Where

Birth Spacing (BS): Birth spacing has been constructed by using the information of number of months between two births. The WHO has recommended a minimum interval of 33 months between the two births or at least 24 months before attempting the next pregnancy (WHO, 2007). We have adopted the WHO standard to measure the adequate birth spacing. It has been divided into two categories. If a woman takes less than 33 months birth spacing between two children then coded as 1 and if a woman takes at least 33 months birth spacing then coded as 2.

Unmet Need for Family Planning (UMNFP): UMNFP is described as "the married women of reproductive age who are not using any method but would like to postpone the next pregnancy (unmet need for spacing), or who do not want any more children (unmet need for limiting)". It is categorized into two categories, women having UMNFP (spacing and limiting), then coded as 1 and women not having UMNFP then coded as 0.

Women's Age (WA): Women's age is categorized into different five years age groups. These groups are divided into 7 different five years age groups. If women's age lies between 15-19 years age group then coded as 1, if women's age lies between 20-24 years age group then coded as 2, and so on.

Women's Education (WED): Women's education has been categorized into 4 categories. If women have no education then coded as 0, if women have completed maximum five year school education then coded as 1, if women have attained maximum ten year school education then coded as 2 and if women have attained higher education then coded as 3.

Wealth Status of Women's Household (WSWH): Wealth status of women's household is constructed by utilizing the information of residence and household asset characteristics. Each household is given a score for every characteristic (assets and residence), and summation of the score is taken for each household. Each individual is ranked according to the household scores in which they reside. This variable has been classified into five different categories. Coded as 1 if woman reside in a poorest quintile, coded as 2, if woman belong to a poorer quintile, if women reside in a middle quintile then coded as 3, coded as 4, if woman belong to a richer quintile and coded as 5, if woman reside in a richest quintile.

Women's Employment Status (WES): Women's employment status has been divided into two categories. If women are currently not working then coded as 0, and if women are currently working then coded as 1.

Ownership of Land/House (OLH): Ownership of land/house is categorized into two categories. If women have ownership of land/house then coded as 1 and otherwise coded as 0.

Women's Participated in Decision Making (WPDM): Women's participated in decision making has been measured through women's involvement in decision about major household consumption. The variable is classified into two categories. Coded as 1, if the woman has participated in household decision making regarding consumption and if woman has not participated then coded as 0.

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Number of Living Children (NLC): NLC is divided into three categories. If women have no children, then coded as 0, if women have minimum 1 and maximum 3 children then coded as 1 and if women have four or more than four children then it is also coded as 3.

Husband's Education (HED): Husband's education has been categorized into two categories. Coded as 1, if the women or mother has no education or attained maximum five year education (considered as less than secondary education) and coded as 2, if the mother has completed maximum ten year education or attained higher education (considered as at least secondary education).

Exposure to Mass Media (EMM): The PDHS offers information on households that own a television or radio as well as the sort of health message given to women via these mediums. In the models of birth spacing, this variable measured through the information of households' ownership of a radio or television, along with the type of health message delivered to women through these media. The existence of television (TV) at household has been used as a proxy for this variable. If household have presence of the TV then coded as 1, otherwise 0.

Fear of Side Effect for Using Contraceptive (FSE): Fear of contraceptive's side effect is divided into two groups. If a woman has FSE (classified as 1), and does not have any FSE (classified as 0).

Region of Residence (ROR): Women's residence is divided into two categories. If women belong to urban areas then coded as 1 and if women belong to rural areas then coded as 2.

Unmet Need for Family Planning (UMNFP): UMNFP is categorized into two categories, women having UMNFP (spacing and limiting), then coded as 1 and women not having UMNFP then coded as 0.

Dependent variable of our study is categorical. In this case, ordinary least square (OLS) regression is not appropriate because OLS regression deals with continuous data (Gujarati, 2009). Thus, logistic regression is suitable for this condition. We have used binary logistic regressions. Binary logistic regression is considered suitable when outcome variable is categorical variable with two possible outcomes.

RESULT AND DISCUSSIONS

There are different socio-economic and demographic factors that affect birth spacing. Women's age, region of residence (rural/urban), women's education, number of sons, husband's desire of children, husband's education, women's autonomy (women's involvement in decision about usage of family planning methods), wealth status of household, ownership of land and house, women's employment status, fear of side effect for using contraceptives, exposure to mass media and unmet need for family planning can be possible determinants of birth spacing. Besides an unmet need for family planning, different socioeconomic characteristics of parents and households i.e. women's age, region of residence (rural/urban), women's education, number of sons, husband's desire of children, husband's education, women's autonomy (women's involvement in decision about usage of family planning methods), wealth status of household, ownership of land and house, women's employment status, fear of side effect for using contraceptives, and exposure to mass media have been used as control variables in our regression analysis. Table 1 reported the results of effect of UMNFP on birth spacing.

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TABLE 1: THE EFFECT OF UMNFP ON BIRTH SPACING

Dependent Variable: Birth Spacing				
Independent Variables		**β**	**Sig.**	**Exp (β)**
Women's Age	15-19		Reference	
	20-24	.763	.060	2.145
	25-29	1.201	.003	3.324
	30-34	1.388	.001	4.006
	35-39	1.485	.000	4.461
	40-44	1.495	.000	4.466
	45-49	1.476	.153	4.375
Women's Education	Less than Secondary		Reference	
	At Least Secondary	.226	.000	1.323
Wealth Status of Household	Poor		Reference	
	Not Poor	.254	.000	1.290
Women's Employment Status	Currently Unemployed		Reference	
	Currently Employed	.154	.016	1.203
Ownership of Land/House	No Ownership		Reference	
	Ownership	.531	.184	1.701
Women's Empowerment	Less Empowered		Reference	
	More Empowered	.023	.038	1.024
Number of Living Children	No Children		Reference	
	1 – 3 Children	.241	.267	1.277
	More than 3 Children	.442	.169	1.556
Husband's Education	Less than Secondary		Reference	
	At Least Secondary	.083	.033	1.086
Exposure to Mass Media	No		Reference	
	Yes	.016	.075	1.016
Fear of Side Effect	No Fear		Reference	
	Fear	-.452	.394	.637
Region of Residence	Rural		Reference	
	Urban	.249	.191	1.286
Unmet Need for Family Planning	No		Reference	
	Yes	-.141	.000	.868

Table 1 shows the result of binary logistic regression to investigate the impact of UMNFP on birth spacing. The results show that the positive association between women's age and birth spacing. Women's age increases birth spacing increases. This could be related to the fact that younger women are more likely to have children for a variety of reasons, such as higher fecundity and the fact that they are at an earlier stage in the process of family development (Vidya and Ushma, 2002; Audi & Roussel, 2024).

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The probability of birth spacing are higher among women who have educated than those women who have uneducated. But the tendency of birth spacing decreases with increase in women's education. When women's education increases birth spacing (at least 33 month) decreases. In order to participate in non-childbearing activities, educated women can compress childbearing into fewer years, resulting in shorter birth intervals (Saumya et al., 2006).

The odds of birth spacing are higher among women who belong to poorer wealth quintile compared to those women who belong to poorest wealth quintile; similarly, compared to those who belong to the poorest wealth quintile, it is much lower among those who belong to the wealthier and wealthiest wealth quintiles. When a wealth quintile is changed from the bottom to the top, the median number of months increases. Similarly, as one moved from the lowest quintile to the highest quintile of the wealth index, the median number of years between births increased. Women in the higher-wealth bracket may have greater access to education and information and therefore may have longer birth intervals (Central Statistical Agency, 2006; Asif et al., 2022a).

The odds of birth spacing are higher among women who are currently employed compared to those women who are currently unemployed. Moreover, women's employment has been proven to be connected with their empowerment, putting them in a better position to make decisions regarding the usage of contraceptives (Riaz and Pervaiz, 2018; Asif et al., 2022b). The probability of birth spacing is higher among those women who are more empowered rather than those women who are less empowered. However, it has also been discovered that women's employment is connected with their empowerment; as a result, women may be in a better position to determine whether or not to utilize contraceptives when they are in control of their economic situation (Riaz and Pervaiz, 2018; Asif et al., 2021; Asif et al., 2022c).

Husband's education is also an important factor that affects birth spacing. The likelihood of birth spacing is higher among those women whose husbands are higher educated as compared to uneducated. Educated husband encourage their wives for increasing birth spacing between two births. The likelihood of birth spacing is higher among women who have more informative than those women who have less informative. Exposure to mass media results in greater knowledge and awareness, as well as changes in attitudes, social norms, and behaviors, which can have beneficial effects on public health (Gustav et al., 2014; Asif et al., 2022d). Unmet need for family planning is an important factor that affects birth spacing. The likelihood of birth spacing is lower among women who have UMNFP than those women who have no UMNFP. UMNFP results in closely spaced births at a very young age (Bankole et al., 2014) which sometimes causes abortion and poor maternal health which are considered as a major contributor to poor child's health, high maternal and child death (Wulifan et al., 2017; Asif et al., 2023).

CONCLUSION

Government of Pakistan has been struggling continuously to bring down population growth because the growth rate and size of population can have immense consequences for economic development. The prevalence of UMNFP results unwanted pregnancies, increases population

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growth rate and can hinder these efforts. Thus, to formulate appropriate policies and to cope with this issue, we need to explore the determining factors of birth spacing. The key objective of this study is to explore the important determinants of Birth spacing. The result indicate that the likelihood of women age increases birth spacing increases. The probability of birth spacing are higher among women who have educated than those women who have uneducated. But the tendency of birth spacing decreases with increase in women's education. The odds of birth spacing are higher among women who belong to poorer wealth quintile compared to those women who belong to poorest wealth quintile; similarly, compared to those who belong to the poorest wealth quintile, it is much lower among those who belong to the wealthier and wealthiest wealth quintiles. When a wealth quintile is changed from the bottom to the top, the median number of months increases. The odds of birth spacing are higher among women who are currently employed compared to those women who are currently unemployed. The probability of birth spacing is higher among those women who are more empowered rather than those women who are less empowered. The probability of birth spacing is higher among those women who are more empowered rather than those women who are less empowered. Husband's education is also an important factor that affects birth spacing. The likelihood of birth spacing is higher among those women whose husbands are higher educated as compared to uneducated. Unmet need for family planning is an important factor that affects birth spacing. The likelihood of birth spacing is lower among women who have UMNFP than those women who have no UMNFP. Results conclude that unmet need for family is an important determinant of short birth spacing in the case of Pakistan.

POLICY IMPLICATIONS

The empirical results of this study suggest that, education especially women's education can be used as an important tool to reduce UMNFP. Women's access to education should be ensured. Education will enhance their awareness not only for reproductive health and usage of modern contraceptives but also for gaining empowerment in their family. In this way, women can have an effective role in decision regarding fertility, use of contraceptives and size of their family. In addition, population growth can be controlled through launching of an effective campaign through mass media to create awareness among people about the availability and good quality contraceptives may help to reduce people's FSE. Provision of employment opportunities, as another tool is used to increase birth spacing. The Employed women are considered to be more empowered, as they are in better position in taking decisions about family planning methods. Cultural and social hurdles of women employment need to be removed through an effective public policy, mass spread of education and an effective media campaign. Religious scholars and community leaders have to be engaged to convey and convince people about the effectiveness of family planning programme and its benefits. Hence, the rural areas need to be particularly more focused regarding awareness/knowledge of family planning programme as compared to urban areas in the country. Government should promote nongovernmental organizations (NGOs) and government agencies to expand and diversify public and private sector sources of family planning information and services in order to increase availability. The access of low cost or

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subsidize family planning services across socioeconomic groups' especially younger women having longer period of reproductive age and reduce unintended pregnancies as well as abortions. Thus improves the maternal and child health. Family planning programmes should be prepared taking into account these different factors which influence UMNFP.

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